

S/N 09/775,938

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Margo Haygood et al.

Examiner: Kathleen M. Kerr

Serial No.: 09/775,938

Group Art Unit: 1652

Filed: January 31, 2001

Docket: 1133.010US1

Title: BRYOSTATINS, BRYOPYRANS AND POLYKETIDES: COMPOSITIONS
AND METHODS



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RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents
Washington, D.C. 20231

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Sir:

In response to the Restriction Requirement mailed September 16, 2002, Applicant provisionally elects, with traverse, the invention of Group 19 of SuperGroupA, directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:37, the complement thereof, or a nucleic acid molecule which hybridizes thereto. SuperGroup A (claims 66-74 and 86-89) is directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, and includes Groups 1-19: Group 1 is directed to SEQ ID NO:9; Group 2 is directed to SEQ ID NO:11; Group 3 is directed to SEQ ID NO:13; Group 4 is directed to SEQ ID NO:15; Group 5 is directed to SEQ ID NO:17; Group 6 is directed to SEQ ID NO:19; Group 7 is directed to SEQ ID NO:21; Group 8 is directed to SEQ ID NO:23; Group 9 is directed to SEQ ID NO:25; Group 10 is directed to SEQ ID NO:27; Group 11 is directed to SEQ ID NO:29; Group 12 is directed to SEQ ID NO:30; Group 13 is directed to SEQ ID NO:31; Group 14 is directed to SEQ ID NO:32; Group 15 is directed to SEQ ID NO:33; Group 16 is directed to SEQ ID NO:34; Group 17 is directed to SEQ ID NO:35; Group 18 is directed to SEQ ID NO:36; and Group 19 is directed to SEQ ID NO:37. Reconsideration and withdrawal of the Restriction Requirement, in view of the remarks herein, is respectfully requested.

The Examiner is respectfully requested to consider that Applicant's invention includes a composition comprising at least one isolated nucleic acid molecule from a marine organism that

encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring. As shown in Figures 12-18 of the specification, at least SEQ ID NO:29, SEQ ID NO:30, SEQ ID NO:31, SEQ ID NO:32, SEQ ID NO:33, SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36 and SEQ ID NO:37 correspond to sequences which are closely linked in the genome of *Endobugula*, and together those sequences encode a primary structure corresponding to that of a polyketide synthase. For instance, clone 5B (see Figure 12) includes sequences corresponding to SEQ ID Nos:33, 34, 35, 36 and 37. The 5' end of clone 5B overlaps with the 3' end of clone 5A, and clone 5A includes sequences corresponding to SEQ ID NO:32. Moreover, the 5' end of clone 5A overlaps with the 3' end of clone 6A, and clone 6A includes sequences corresponding to SEQ ID Nos. 30 and 31. Further, the 5' end of clone 6A overlaps with the 3' end of clone 3A, and clone 3A includes sequences corresponding to SEQ ID NO:29.

The Restriction Requirement is traversed on the basis that the inventions are so closely related within the context of the disclosure of the application that they cannot properly be considered independent and distinct within the statutory meaning of 35 U.S.C. § 121. For instance, a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the molecule comprises SEQ ID NO:37, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 19) is clearly related to a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:36, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 18), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:35, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 17), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran

ring, wherein the nucleic acid molecule comprises SEQ ID NO:34, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 16), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:33, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 15), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:32, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 14), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:31, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 13), a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:30, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 12), and a claim directed to a composition comprising at least one isolated nucleic acid molecule from a marine organism that encodes at least one polypeptide that catalyzes at least one step in the synthesis of at least one polyketide or bryopyran ring, wherein the nucleic acid molecule comprises SEQ ID NO:29, the complement thereof, or a nucleic acid molecule which hybridizes thereto (Group 11). Thus, the invention of at least Groups 11-19 are closely related.

The Restriction Requirement is also traversed on the basis that Restriction Requirements are optional in all cases. M.P.E.P. § 803. If the search and examination of an entire application can be made without serious burden, the Examiner must examine on the merits, even though it arguably may include claims to distinct or independent inventions. M.P.E.P § 803. Moreover, it is submitted that Applicant should not be required to incur the additional costs associated with the filing of multiple (91!) divisional applications in order to obtain protection for the claimed

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subject matter. Due to the relatedness of the subject matter of at least the claims in Groups 11-19 as discussed above, the claims in Groups 11-19 can be efficiently and effectively searched in a single search with no additional burden placed on the Examiner. Evidence that the claims in at least Groups 11-19 can be efficiently and effectively searched in a single search with no additional burden placed on the Examiner is provided in the Restriction Requirement as those claims are in the same class and subclass (class 536 and subclass 23.1) for search purposes.

Thus, the Restriction Requirement is properly traversed. Accordingly, reconsideration and withdrawal of the Restriction Requirement is respectfully requested.

Applicant's Representatives thank the Examiner for the prospective rejoinder of the claims in SuperGroups C and E with the allowed claims in SuperGroup A.

The Examiner is invited to telephone Applicant's attorney to facilitate prosecution of this application. Please charge any additional fees deemed necessary to Deposit Account 19-0743.

Respectfully submitted,

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By their Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 3 day of December, 2002.

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Name

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Signature